

REMARKS

This Amendment, filed in reply to the Office Action dated October 31, 2006, is believed to be fully responsive to each point of rejection raised therein. Accordingly, favorable reconsideration on the merits is respectfully requested.

Claims 1-23 are all the claims pending in the application.

I. Claim Rejections under 35 U.S.C. § 103

Claims 1-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Becker et al. (U.S. Patent No. 6,904,161).

Becker is directed to a workflow configuration and execution in medical imaging. In particular, Becker attempts to address the drawbacks of the prior art in which image processes are handled piecemeal and imaging processes are handled in independent segments by providing a workflow template. See col. 2, lines 18-22. In Becker, an imaging workflow routing is created by filling out a workflow template with data and a sequence of activities, and executing the sequence of activities (e.g. acquiring patient data, organizing patient data, acquiring an image such as a nuclear or MRI image, processing the image through filters, outputting image data) according to the workflow template. See col. 2, lines 50-53.

Claim 1

Claim 1 recites:

An image display method for displaying a plurality of images on a display means, wherein;
based on at least one display protocol sequence that defines an execution order of a plurality of display protocols for the plurality of images, in which a plurality of display protocols that define a display layout of said plurality of images are lined up in a predetermined order, the display layout of said plurality of images is switched

by switching said display protocols by the predetermined order defined in the display protocol sequence and said plurality of images are displayed on said display means using the switched display protocol.

The Examiner asserts that Becker discloses the generation of a template for running a series of images. The Examiner further asserts that the images with various layouts disclose the plurality of display protocols. The Examiner concedes that Becker does not explicitly disclose that the plurality of display protocols (images with various layouts) are switched in a predetermined order by the display protocol sequence, but the Examiner asserts that Becker discloses creating images of various layouts and displaying them in series, citing col. 7, lines 29-33, 37-38 and 52-54 in support.

However, merely because images of various layouts are displayed in a series, does not teach or suggest a display protocol sequence that defines an execution order of a plurality of display protocols.

The aspect of Becker cited by the Examiner discloses that image and data results may be output in some manner (e.g. paper printouts, screen displayed, generated film) for use by a physician or technician. The output function can include a Flexible Display activity that provides a mechanism for an operator to customize a display by allowing an operator to configure and position an arbitrary number of display objects on an output screen. An image display object can display a single image at a time or a series of images. The Flexible Display activity allows an operator to create multiple display pages, and each page may be separately configured.

However, Becker at most discloses arranging images which are to be displayed to an output screen in various layouts. There is no teaching or suggestion of a display protocol sequence which defines how the various layouts (display protocols as cited by the Examiner) will

be executed. Although Becker discloses that a slideshow or series of images can be output, there is no teaching or suggestion that the series is defined according to a display protocol sequence. Consequently, Becker does not teach at least one display protocol sequence that defines an execution order of a plurality of display protocols for the plurality of images, as claimed.

Moreover, there is no teaching or suggestion that a plurality of display protocols that define a display layout of said plurality of images are lined up in a predetermined order. In particular, there is no teaching or suggestion in Becker that the display layouts of the images are lined up in *any* order, let alone, a predetermined order, as claimed.

Claim 1 further recites “the display layout of said plurality of images is switched by switching said display protocols by the predetermined order defined in the display protocol sequence and said plurality of images are displayed on said display means using the switched display protocol.” However, there is no teaching that the display layouts of Becker are arranged in a predetermined order. Further, there is no teaching or suggestion of switching the display protocols by a predetermined order defined in the display protocol sequence. Becker at most teaches that an operator can change the order of the display pages, see col. 7, lines 52-55. Moreover, as discussed on col. 2, lines 35-39, the prior art does not give an operator overall control over an imaging machine and processing. The operator therefore does not have cohesive control of a medical imaging process. The prior art further does not allow an operator to compose one overall processing schedule. Therefore, the goal of Becker to give an operator cohesive control of the imaging process.

Consequently, the switching of display layouts of Becker is performed according to an operator’s selection (e.g. the output function may include a Flexible Display activity that

provides a mechanism for a operator to customize the display; col. 7, lines 26-31) and not based on a predetermined order defined in a display protocol sequence. Consequently, it would not be obvious to modify Becker as claimed.

In addition, Becker fails to teach or suggest that images are displayed by automatically switching display protocols. Becker discloses workflow templates for controlling all the workflows of imaging processing (process from obtaining patient data and image data until outputting image data). With respect to the process of outputting image data (at a display), Becker discloses features that in flexible-display-activity process of the workflows, an operator produces a plurality of display pages by selecting a plurality of display objects and adjusting the layout and the sizes of the selected objects using page-layout mode. In Becker, the operator further displays the produced display pages and adjusts the contrast of the images or the like using a display mode. The Examiner asserts that the workflow template in the image output process of Becker corresponds to the display protocol sequence of the present invention. However, contrary to the Examiner's assertion, Becker merely discloses that images are displayed after an operator has manually set a layout. Becker does not teach or suggest the features of an exemplary embodiment of the present invention in which images are displayed based on predefined display protocols according to a predefined display protocol sequence by automatically switching predefined display protocols.

Further, "display of a series of images" (col. 7, lines 37 and 38 of Becker), is a slide-show or movie display of a series of images. Such a display is a simple example of a display protocol corresponding to the stack display of the present invention (see for example, Applicant's specification at page 12, line 26 through page 14, line 1). Therefore, the Examiner's assertion that the "display of a

series of images" in Becker corresponds to the process of (sequentially) displaying a series of various layouts (display protocols) by switching protocols, is not correct.

For at least the above reasons, claim 1 and its dependent claims should be deemed allowable. To the extent claims 5 and 9 recite similar elements, claims 5 and 9 and their dependent claims should be deemed allowable for at least the same reasons.

Claim 2

Claim 2 recites "for cases in which there are multiple display protocol sequences, the desired display protocol sequence can be selected, and based on the selected display protocol sequence, said plurality of images are displayed on the display means."

The Examiner asserts that Becker discloses that multiple templates can be created by an operator, each defining various activities such as displaying a series of images and the templates can be selected by an operator to run different protocol sequences.

Assuming *arguendo*, a workflow template discloses a display protocol sequence, as discussed above, a workflow template does not define an execution order of a plurality of display protocols. As indicated by the Examiner, an operator determines which images are to be displayed on a screen. A layout is not displayed according to a predetermined order defined by a display protocol sequence. Consequently, a workflow template does not disclose a display protocol sequence because display layouts (display protocol as cited by the Examiner) are not lined up in a predetermined order in a workflow template (display protocol sequence as cited by the Examiner) and display of the layouts is not switched according to a predetermined order of the display protocol sequence, but according to an operator's preference.

For at least the above reasons, claim 2 should be deemed allowable.

Claims 7 and 8

Claim 7 recites “the control means can switch the multiple display protocol sequences, and based on the switched to display protocol sequence, said plurality of images is displayed on the display means.” Claim 8 recites “based on the predetermined conditions, the control means creates the display protocol sequences, and based on said created display protocol sequence, said plurality of images are displayed on the display means.”

In rejecting claims 7 and 8, the Examiner merely reiterated the language of claims 7 and 8 without particularly identifying where these aspects of the claims are disclosed in the reference. Most likely because the workflow manager apparatus (control means as cited by the Examiner) does not create a display protocol sequence. Moreover, assuming a display protocol sequence is disclosed in Becker, it would be created by an operator and not a control means, as claimed.

For at least the above reasons, claims 7 and 8 should be deemed allowable.

Claim 16

Claim 16 recites “wherein said display protocol sequence includes at least two of the plurality of display protocols to be arranged in a predetermined temporal order and wherein the display protocol sequence can be switched to a different display protocol sequence prior to reaching a last display protocol of the display protocol sequence.”

The Examiner asserts that Becker, col. 8, lines 6-67, teaches this aspect of the claim. The aspect of Becker cited by the Examiner discloses that if an operator makes any changes to the workflow sequence, the method detects such a change and determines whether any reprocessing needs to be performed. Any affected, already executed activities may be re-executed in order to

ensure that the workflow is processed according to the instructions of the operator. However, a change to a workflow sequence does not teach a change to a display protocol sequence (workflow template as cited by the Examiner). In particular, the workflow template appears to be the same, and only a change is made to the sequence of operations performed within a workflow template. Consequently, Becker does not teach or suggest switching to a different display protocol sequence (workflow template) prior to reaching a last display protocol of the display protocol sequence.

For at least the above reasons, claim 16 should be deemed allowable. To the extent claims 17 and 18 recite similar elements, claims 17 and 18 should also be deemed allowable for at least the same reasons.

Claim 19

Claim 19 recites “wherein the display protocols are switched automatically based on the display protocol sequence.” The Examiner asserts that Becker discloses that workflow templates are executed automatically. However, workflow templates were cited by the Examiner for teaching the claimed display protocol sequence and not the display protocols.

Further, the Examiner merely asserts that the aspects of claim 19 are disclosed in the art without particularly identifying where this aspect of the claim is disclosed in the reference. Regardless, there is no teaching or suggestion that either the workflow templates or image layouts (display protocols as initially asserted by the Examiner) are executed automatically.

For at least the above reasons, claim 19 should be deemed allowable. To the extent claims 20 and 21 recite similar elements, claims 20 and 21 should also be deemed allowable for at least the same reasons.

II. New Claims

Applicant has added claims 22 and 23 to provide a more varied scope of protection.

Claims 22 and 23 should be deemed allowable by virtue of their dependency to claim 1 for at least the reasons set forth above. Moreover, Becker does not teach the elements of claims 22 and 23.

III. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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